AMENDMENTS TO THE CLAIMS

1. (Currently amended) A recording apparatus for dividing a video stream into data segments, each data segment containing at least one frame of video data, and recording data onto a data recording medium on a per data segment basis, comprising:

information generating means for generating additional data, separate from the video stream, containing additional information regarding the relationship between the video data contained in one data segment and the video data contained in another data segment or additional information regarding characteristics of the video data contained in each data segment;

wherein the additional information comprises at least one piece of decode information indicating whether to use video data contained in another data segment when the video data contained in one data segment is decoded, reproduction order information relating to a reproduction order of the video data that is contained in the data segment and is to be accessed when the video stream is randomly accessed, video data amount information regarding an amount of video data contained in the data segment, and scanning method information regarding a scanning method of the video data contained in the data segment;

multiplexing means for multiplexing the additional data with the data segment at a predetermined position thereof; and

recording control means for controlling the recording of the data segment onto the data recording medium.

2. (Canceled)

2

3. (Original)   The recording apparatus according to claim 1, wherein the video stream is a video

stream that has been encoded in compliance with MPEG (Moving Picture Experts Group) 2, and

wherein the data segment is a VOBU (Video Object Unit).

4. (Original)   The recording apparatus according to claim 3, wherein the additional information

comprises at least one piece of information equivalent to a closed GOP (Group of Pictures) flag,

information equivalent to a broken link flag, information regarding a reproduction order of I-

pictures in the VOBU, the number of frames of video to be reproduced by the VOBU, the number

of pages of video data contained in the VOBU, and information equivalent to a progressive frame

flag.

5. (Currently amended)   A recording method of dividing a video stream into data segments, each

data segment containing at least one frame of video data, and recording data onto a data recording

medium on a per data segment basis, comprising:

an information generating step of generating additional data, separate from the video stream,

containing additional information regarding the relationship between the video data contained in

one data segment and the video data contained in another data segment or additional information

regarding characteristics of the video data contained in each data segment,

wherein the additional information comprises at least one piece of decode information

indicating whether to use video data contained in another data segment when the video data

contained in one data segment is decoded, reproduction order information relating to a reproduction

order of the video data that is contained in the data segment and is to be accessed when the video

stream is randomly accessed, video data amount information regarding an amount of video data

contained in the data segment, and scanning method information regarding a scanning method of the video data contained in the data segment;

~~a multiplexing step of~~ multiplexing the additional data with the data segment at a predetermined position thereof~~;~~ and

~~a recording control step of~~ controlling the recording of the data segment onto the data recording medium.

6. (Canceled)

7. (Currently amended)   A computer program product, said computer program product comprising a computer readable medium including program code stored thereon, said program code being executable for causing a recording apparatus to perform a recording process, the recording apparatus dividing a video stream into data segments, each data segment containing at least one frame of video data, and recording data onto a data recording medium on a per data segment basis, said recording process comprising:

~~an information generating step of~~ generating additional data, separate from the video stream, containing additional information regarding the relationship between the video data contained in one data segment and the video data contained in another data segment or additional information regarding characteristics of the video data contained in each data segment~~;~~

wherein the additional information comprises at least one piece of decode information indicating whether to use video data contained in another data segment when the video data contained in one data segment is decoded, reproduction order information relating to a reproduction order of the video data that is contained in the data segment and is to be accessed when the video stream is randomly accessed, video data amount information regarding an amount of video data

contained in the data segment, and scanning method information regarding a scanning method of the video data contained in the data segment;

~~a multiplexing step of~~ multiplexing the additional data with the data segment at a predetermined position thereof~~;~~ and

~~a recording control step of~~ controlling the recording of the data segment onto the data recording medium.

8. (Currently amended)   A reproducing apparatus for reproducing a video stream that has been recorded on a data recording medium on a data segment by data segment basis, each data segment containing video data of at least one frame of video stream, with additional data placed at a predetermined position of the data segment, the additional data, separate from the video stream, containing additional information regarding the relationship between the video data contained in one data segment and the video data contained in another data segment or additional information regarding characteristics of the video data contained in each data segment, comprising:

reading control means for controlling the reading of data from the data recording medium so that the additional data contained in the data segment containing the video data to be reproduced is read from the data recording medium prior to the reading of the video data~~;~~

wherein the additional information comprises at least one piece of decode information indicating whether to use video data contained in another data segment when the video data contained in one data segment is decoded, reproduction order information relating to a reproduction order of the video data that is contained in the data segment and is to be accessed when the video stream is randomly accessed, video data amount information regarding an amount of video data contained in the data segment, and scanning method information regarding a scanning method of the video data contained in the data segment; and

reproduction control means for controlling the reproducing of the video data based on the

additional information contained in the read additional data.

9. (Original)   The reproducing apparatus according to claim 8, wherein the additional information

comprises decode information indicating whether to use video data contained in another data

segment when the video data contained in one data segment is decoded, and

wherein the reading control means controls the reading of the other data segment from the

data recording medium based on the decode information when the video data contained in the one

data segment is to be decoded.

10. (Original)   The reproducing apparatus according to claim 9, wherein the video stream is a video

stream that has been encoded in compliance with MPEG (Moving Picture Experts Group) 2, the

data segment is a VOBU (Video Object Unit), and the decode information is information equivalent

to a closed GOP (Group of Pictures) flag or information equivalent to a broken link flag.

11. (Original)   The reproducing apparatus according to claim 8, wherein the additional information

is video data contained in the data segment, and contains reproduction order information regarding a

reproduction order of the video data that is to be accessed when the video stream is randomly

accessed, and

wherein the reproduction control means comprises reproduction order control means for

controlling the reproduction order of the video data based on the reproduction order information.

12. (Original)   The reproducing apparatus according to claim 11, wherein the video stream is a

video stream that has been encoded in compliance with MPEG (Moving Picture Experts Group) 2,

the data segment is a VOBU (Video Object Unit), and the reproduction order information is information regarding the reproduction order of I-pictures in the VOBU.

13. (Original)   The reproducing apparatus according to claim 8, wherein the additional information comprises video data amount information regarding an amount of video data contained in the data segment, and

wherein the reproduction control means comprises management means for managing the number of frames of video reproduced from the video stream, or the number of pages of video data contained in the video stream based on the video data amount information.

14. (Original)   The reproducing apparatus according to claim 13, wherein the video stream is a video stream that has been encoded in compliance with MPEG (Moving Picture Experts Group) 2, the data segment is a VOBU (Video Object Unit), and the video data amount information is the number of frames of video reproduced from the VOBU, or the number of pages of video data contained in the VOBU.

15. (Original)   The reproducing apparatus according to claim 8, wherein the additional information comprises scanning method information regarding a scanning method of the video data contained in the data segment, and

wherein the reproduction control means comprises correction means for correcting an output signal responsive to the video data based on the scanning method information.

16. (Original)   The reproducing apparatus according to claim 15, wherein the video stream is a

video stream that has been encoded in compliance with MPEG (Moving Picture Experts Group) 2,

the data segment is a VOBU (Video Object Unit),

the scanning method information is information equivalent to a progressive frame flag, and

the correction means performs field correction on the output signal based on the information

equivalent to the progressive frame flag.

17. (Currently amended)   A reproducing method of reproducing a video stream that has been

recorded on a data recording medium on a data segment by data segment basis, each data segment

containing video data of at least one frame of video stream, with additional data placed at a

predetermined position of the data segment, the additional data, separate from the video stream,

containing additional information regarding the relationship between the video data contained in

one data segment and the video data contained in another data segment or additional information

regarding characteristics of the video data contained in each data segment, comprising:

a reading control step of controlling the reading of data from the data recording medium so

that the additional data contained in the data segment containing the video data to be reproduced is

read from the data recording medium prior to the reading of the video data,

wherein the additional information comprises at least one piece of decode information

indicating whether to use video data contained in another data segment when the video data

contained in one data segment is decoded, reproduction order information relating to a reproduction

order of the video data that is contained in the data segment and is to be accessed when the video

stream is randomly accessed, video data amount information regarding an amount of video data

contained in the data segment, and scanning method information regarding a scanning method of the

video data contained in the data segment; and

~~a reproduction control step of~~ controlling the reproducing of the video data based on the additional information contained in the read additional data.

18. (Canceled)

19. (Currently amended)   A computer program product, said computer program product comprising a computer readable medium including program code stored thereon, said program code being executable for causing a reproducing apparatus to perform a reproducing process, the reproducing apparatus reproducing a video stream that has been recorded on a data recording medium on a data segment by data segment basis, each data segment containing video data of at least one frame of video stream, with additional data placed at a predetermined position of the data segment, the additional data, separate from the video stream, containing additional information regarding the relationship between the video data contained in one data segment and the video data contained in another data segment or additional information regarding characteristics of the video data contained in each data segment, said recording process comprising

~~a reading control step of~~ controlling the reading of data from the data recording medium so that the additional data contained in the data segment containing the video data to be reproduced is read from the data recording medium prior to the reading of the video data~~,~~

wherein the additional information comprises at least one piece of decode information indicating whether to use video data contained in another data segment when the video data contained in one data segment is decoded, reproduction order information relating to a reproduction order of the video data that is contained in the data segment and is to be accessed when the video stream is randomly accessed, video data amount information regarding an amount of video data contained in the data segment, and scanning method information regarding a scanning method of the video data contained in the data segment; and

~~a reproduction control step of~~ controlling the reproducing of the video data based on the

additional information contained in the read additional data.